

AMENDMENTS TO THE CLAIMS

1-60. (Canceled)

61. (Previously presented): A recombinant *Streptomyces* host cell which is genetically modified for enhanced synthesis of a polyketide,

wherein said modification comprises incorporation of the *matBC* gene from *Streptomyces coelicolor* or the *matBC* gene from *Rhizobium trifoli* wherein the *matBC* gene is in addition to endogenous *matBC*.

62. (Canceled)

63. (Previously presented): The host cell as in claim 61 wherein the modification further comprises incorporation of the *matA* gene from *Rhizobium trifoli*.

64. (Previously presented): The host cell as in claim 61 wherein said modification further comprises incorporation of at least one expression system for a modular polyketide synthase (PKS).

65. (Previously presented): The host cell as in claim 61 wherein the host cell is *Streptomyces coelicolor*.

66. (Previously presented): The host cell as in claim 61 wherein the *matBC* gene is from *Rhizobium trifoli*.

67. (Previously presented): The host cell as in claim 64 wherein the PKS is DEBS.

68. (Previously presented): The cell as in claim 61

wherein the polyketide is 6-dEB.

69. (Currently amended): A recombinant *E. coli* host cell which is genetically modified for synthesis of a polyketide,

wherein said modification comprises

incorporation of a the *matBC* gene from *Streptomyces coelicolor* or the *matBC* gene from *Rhizobium trifoli*, and

incorporation of at least one expression system for a modular polyketide synthase (PKS), and

incorporation of the *sfp* gene from *Bacillus subtilis* ~~at least one expression system for a phosphopantetheinyl transferase that phosphopantetheinylates the PKS.~~

70. (Canceled)

71. (Previously presented): The host cell as in claim 69 wherein the modification further comprises incorporation of the *matA* gene from *Rhizobium trifoli*.

72. (Previously presented): The host cell as in claim 69 wherein the *matBC* gene is from *Rhizobium trifoli*.

73. (Previously presented): The host cell as in claim 69 wherein the PKS is DEBS.

74. (Previously presented): The host cell as in claim 69 wherein the polyketide is 6-dEB.

75-77. (Canceled)

78. (Withdrawn): A method to produce a polyketide which method comprises culturing the cells of claim 61 under conditions wherein said polyketide is produced.

79. (Withdrawn): A method to assess the results of a procedure effecting modification of polyketide synthase genes according to claim 61, resulting in a mixture of said modified genes which method comprises

transfecting a culture of *Streptomyces* of claim 61 with said mixture of modified genes, culturing individual colonies of said transformed *Streptomyces*, and assessing each colony for polyketide production.

80. (Withdrawn/Currently amended): The method of claim ~~[[61]]~~ 78 which further includes providing a substrate, wherein the substrate is of the formula $\text{RCH}(\text{COOH})_2$ wherein R is H, methyl or ethyl.

81. (Withdrawn): A method to produce a polyketide which method comprises culturing the cells of claim 69 under conditions wherein said polyketide is produced.

82. (Withdrawn): A method to assess the results of a procedure effecting modification of polyketide synthase genes according to claim 69, resulting in a mixture of said modified genes which method comprises

transfecting a culture of *E. coli* of claim 69 with said mixture of modified genes, culturing individual colonies of said transformed *E. coli*, and assessing each colony for polyketide production.

83. (Withdrawn/Currently amended): The method of claim ~~[[69]]~~ 81 which further includes providing a substrate, wherein the substrate is of the formula $\text{RCH}(\text{COOH})_2$ wherein R is H, methyl or ethyl.